

Patent claims:

1. A semiconductor component arranged in a semiconductor body comprising at least one integrated radially symmetrical lateral resistance, wherein the differential resistance dR of the lateral resistance R is formed in location-independent fashion in such a way that the following holds true:

$$dR/dr \approx K,$$

where dr is the differential radius of the lateral resistance and K is an arbitrary constant.

2. The semiconductor component as claimed in claim 1, wherein the sheet resistance R_s is configured in radially location-dependent fashion.

3. The semiconductor component as claimed in claim 2, wherein the differential resistance dR is radially constant.

4. The semiconductor component as claimed in claim 2, wherein the power dissipated in the resistance is radially constant.

5. The semiconductor component as claimed in claim 1, wherein the lateral resistance is arranged in a homogeneously doped resistance region of the semiconductor component, the resistance region having radially symmetrical inhomogeneities, which have a different electrically active doping concentration by comparison with the doping of the resistance region.

6. The semiconductor component as claimed in claim 5, wherein the radially symmetrical inhomogeneities have an increased sheet resistance, produced by irradiation, compared to the resistance region.

7. The semiconductor component as claimed in claim 5, wherein the radially symmetrical inhomogeneities have a higher doping concentration, produced by additional doping, than the resistance region.
8. The semiconductor component as claimed in claim 5, wherein the width or the diameter of the spatial inhomogeneities decreases as the radius r increases.
9. The semiconductor component as claimed in claim 5, wherein the distance between the radially symmetrical inhomogeneities increases in the radial direction as the radius r increases.
10. The semiconductor component as claimed in claim 5, wherein the electrically active doping concentration of the radially symmetrical inhomogeneities decreases as the radius r increases.
11. The semiconductor component as claimed in claim 5, wherein the depth with which the radially symmetrical inhomogeneities have been introduced into the semiconductor body, so that the sheet resistance is locally increased, increases as the radius r increases.
12. The semiconductor component as claimed in claim 5, wherein the depth with which the resistance region has been introduced into the semiconductor body decreases as the radius r increases.
13. The semiconductor component as claimed in claim 5, wherein the radially symmetrical inhomogeneities, in the projection of the surface of the semiconductor component, are formed as concentric annuli.

14. The semiconductor component as claimed in claim 5, wherein the inhomogeneities, in the projection of the surface of the semiconductor component, are formed as points or circles which are arranged concentrically.

15. The semiconductor component as claimed in claim 1, wherein the semiconductor component is formed as a thyristor, in particular as a high-voltage thyristor.

16. The semiconductor component as claimed in claim 15, wherein the thyristor is formed in radially symmetrical fashion and has, in particular, radially symmetrical emitter regions.